#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property Organization

International Bureau



### A TREATH BUILDING ALBERT HER BUILD BUILD BRIDE BUILD BUILD

## (43) International Publication Date 7 July 2005 (07.07.2005)

**PCT** 

# (10) International Publication Number WO 2005/062462 A1

(51) International Patent Classification<sup>7</sup>:

H03B 28/00

(21) International Application Number:

PCT/KR2004/001505

(22) International Filing Date:

22 June 2004 (22.06.2004)

(25) Filing Language:

**English** 

(26) Publication Language:

English

(30) Priority Data: 10-2003-0095038

22 December 2003 (22.12.2003) K

(71) Applicant (for all designated States except US): ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE [KR/KR]; 161, Gajeong-Dong, Yuseong-Gu, Daejon 305-350 (KR).

(72) Inventors; and

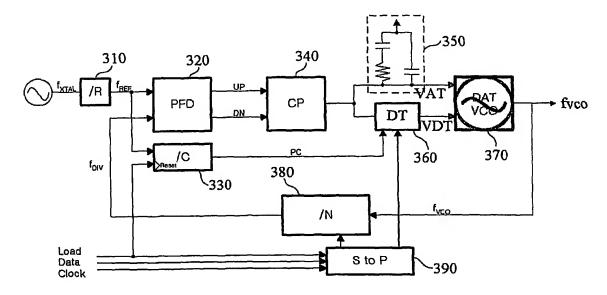
(75) Inventors/Applicants (for US only): HAN, Seon Ho [KR/KR]; Noble House 304, 126-21, Sinseong-Dong, Yuseong-Gu, Daejon 305-345 (KR). HAN, Jin Ho [KR/KR]; 119-20, Doma-Dong, Seo-Gu, Daejon 302-160

(KR). PARK, Mun Yang [KR/KR]; Hanmaeul Apt. 109-105, Songgang-Dong, Yuseong-Gu, Daejon 305-503 (KR).

- (74) Agent: SHIN, Young Moo; Ace Tower, 4th Floor, 1-170 Soonhwa-Dong, Chung-Gu, Seoul 100-130 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: VOLTAGE CONTROLLED DIGITAL ANALOG OSCILLATOR AND FREQUENCY SYNTHESIZER USING THE SAME



(57) Abstract: Provided are a voltage controlled digital analog oscillator and a frequency synthesizer using the same, the oscillator comprising an oscillator having a frequency of an output signal being determined by a voltage inputted to an analog input end and a digital value inputted to a digital input end; and a digital tuner for comparing the voltage inputted to the analog input end to first and second threshold voltages and changing the digital value inputted to the digital input end according to the result, whereby it is possible to obtain a broadband frequency output with less noise.



#### Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.